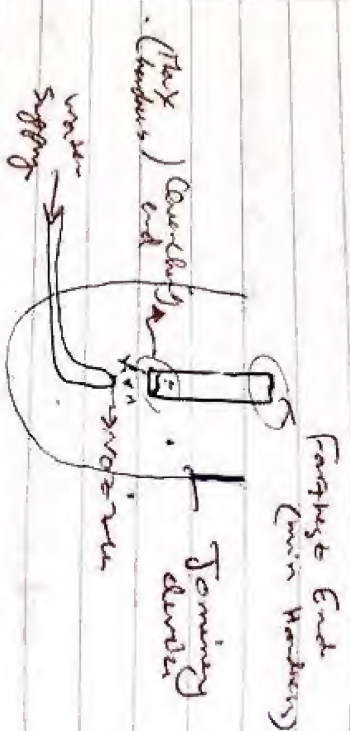


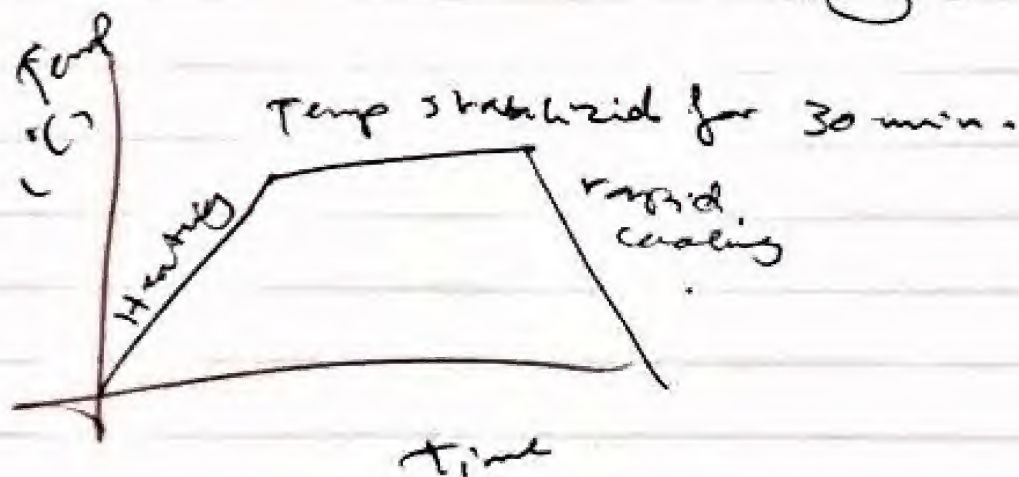
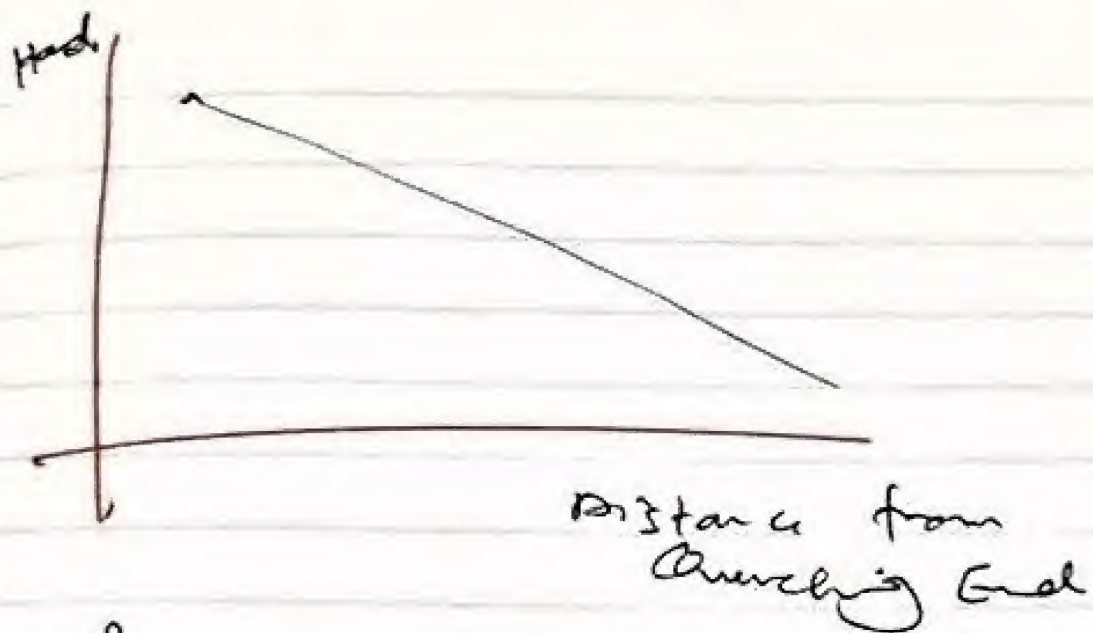
Hardability Test Exp. 8. (Jominy End Quench test)

Hardness: Resistance to scratching

Hardability: Measure the depth to which the specimen may be hardened.



by quenching it from a temp above A_{cc} (upper critical limit).
expected $727^{\circ}C$



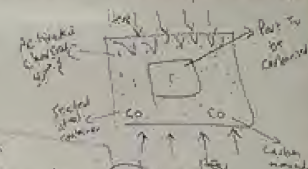
(a)

Exp 10 Pack Carburising (Surface hardening of steel)
 a) Process of increasing surface hardness of low carbon steel by increasing carbon composition at the surface

(T) Temp $900 - 1050$

(C) Time 4-10 hrs, 0.5 mm

By CO or CO_2
 (1) Spraying technique
 (2) Packing diffuse



EXPT 10: Surface hardening of steel (Pack carburizing)

* Procedures:

1) Clean the surface from any contaminant.

2) Calculate $\approx 1.5\text{HN}$.

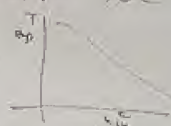
3) put the low carbon steel in the steel box with charcoal & charcoal.

4) Close the steel box with clay.

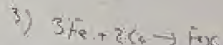
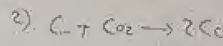
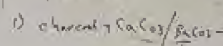
5) put the steel box in the furnace & heat from 7 to 10 hrs.

6) Spraying a water

7) V.N.



Reaction



Gears wear & tearing in this place \rightarrow wear tearing

Carbon atom size $\frac{1}{30}$ than Medium CO_2
 Iron atom size $\frac{1}{30}$ than Solid \rightarrow Charcoal \rightarrow Gas
 Solid \rightarrow Gas
 Gas \rightarrow Liquid
 Liquid \rightarrow Solid